

Using the  
Home Screen

Menu Keys

Function Keys

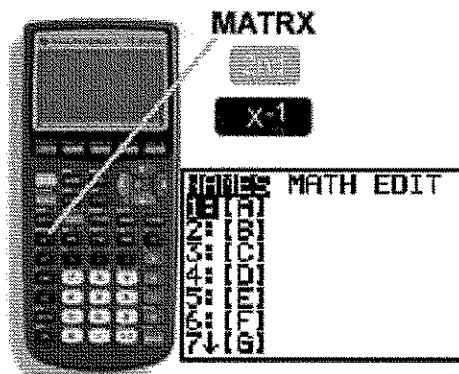
How to Graph

Home

## How to Use the Home Screen on the TI-83/84

### I. Menu Keys - Keys that offer choices

#### I. MATRX (matrix)



The matrix menu is quite extensive and an exhaustive study here is beyond the scope of this tutorial. However, once you have learned what is presented here, you should have enough basic knowledge to use the remainder of the menu.

When you first access the MATRIX menu the screen that appears has the names of matrices.

NAMES	MATH	EDIT
NAMES MATH EDIT 1: [A] 2: [B] 3: [C] 4: [D] 5: [E] 6: [F] 7: [G]	NAMES MATH EDIT 1: det() 2: r 3: dim() 4: Fill() 5: identitw() 6: randM() 7: augment()	NAMES MATH EDIT 1: [A] 3x3 2: [B] 2x1 3: [C] 4: [D] 5: [E] 6: [F] 7: [G]

1. The NAMES menu is used to paste the name of a matrix into the home screen or a program.
2. The MATH menu contains all of the operations that can be done with a matrix.
3. The EDIT menu is where you set the size of the menu and enter the

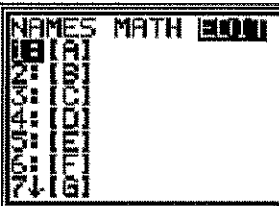
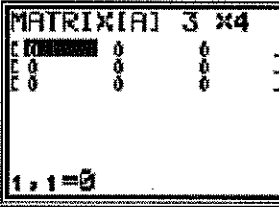
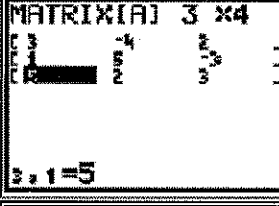
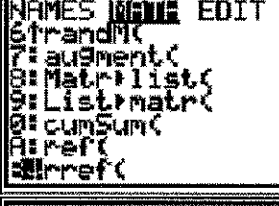
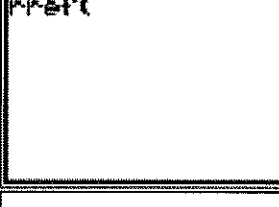
elements.




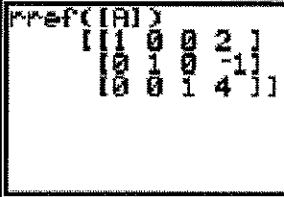
The example below will take you through the basic steps of entering a matrix and using it to solve a system of equations, which is one of the main applications of matrices that you will use in an algebra course.





Example: Use a matrix to solve the following system of equations.

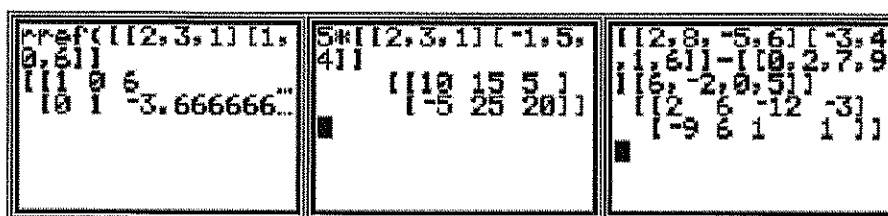
$$\begin{cases} 3x - 4y + 2z = 18 \\ x + 5y - 3z = -15 \\ 5x + 2y + 3z = 20 \end{cases}$$

To use a matrix to solve a system of equations, you put the matrix in reduced row echelon form. While this can be a tedious and time consuming process to do by hand, the TI-83 will do this in one step.

Go to MATRIX and EDIT.	
Define [A] to be a 3X4 matrix. Use the cursor and the ENTER key to move through the spaces.	
Now enter the coefficients and constants from the system by entering the value and pressing ENTER.	
Return to the home screen (2ND MODE) and access the MATRIX MATH menu and scroll down to item B.	
Hit ENTER to return to the home screen.	

<p>Enter matrix [A] by pressing   1 and close the parentheses.</p>	
<p>Press ENTER and read the solution as <math>x=2</math>, <math>y=-1</math>, <math>z=4</math>.</p>	

Matrices can be entered directly into the home screen by using the [ ] keys which are accessed by entering   and  . You enter [ to start the matrix and then enclose each row in [ ] and close the matrix with ]. Below are some screens showing some manipulations with matrices.



A. MODE	B. LINK	C. LIST	D. STAT	E. MATH	F. TEST
G. ANGLE	H. VARS	I. MATRIX	J. MEM	K. CATALOG	MENU